CLAIM AMENDMENTS

WHAT IS CLAIMED IS:

This listing of the claims will replace all prior versions, and listing, of claims in the application:

1. **(Currently Amended)** A method for analyzing ~~the~~ **a** combustion noise during the injection of fuel into a cylinder ~~(11)~~ of an internal combustion engine ~~(10)~~, ~~**wherein**~~ **comprising:**

detecting the combustion noise within an injection cycle ~~**is detected**~~ in a measuring window ~~(M)~~ which corresponds to a rotation angle of ~~**the**~~ **a** crankshaft ~~(18)~~ of the internal combustion engine ~~(10)~~,

~~**characterized in**~~ ~~that~~ wherein an algorithm is formed by means of which a start and/or end position of the measuring window ~~(M)~~ that is variable as a function of operating parameters is determined for the measuring window ~~(M)~~ in order to register the combustion noise of an individual injection pulse.

2. **(Currently Amended)** ~~**The**~~ **A** method ~~**as claimed in**~~ **according to** claim 1, ~~**characterized in that**~~ **wherein** the end position of the measuring window ~~(M)~~ is placed immediately before ~~**the**~~ **a** start of combustion ~~(SOC)~~ of a following injection pulse.

3. **(Currently Amended)** **A method according to claim 1, wherein** ~~The method as claimed in claim 1 or 2, characterized in that~~ the start position of the measuring window ~~(M)~~ is predefined by a fixed length in time or a fixed rotation angle which is counted back from the end position of the measuring window ~~(M)~~.

4. **(Currently Amended)** **A method according to claim 1, wherein** ~~The method as claimed in one of the preceding claims, characterized in that~~ the measuring window ~~(M)~~ is started at ~~the~~ **a** start of injection ~~(SOI)~~ or immediately before ~~the~~ **a** start of combustion ~~(SOC)~~ of ~~the~~ **an** injection pulse that is to be considered.

5. **(Currently Amended)** **A method according to claim 1, wherein** ~~The method as claimed in one of the preceding claims, characterized in that~~ the start position and/or ~~the~~ **a** length of the measuring window ~~(M)~~ is determined by analysis of ~~the~~ **an** envelope ~~(H)~~ which is formed from the received combustion noise.

6. **(Currently Amended)** **A method according to claim 5, wherein** ~~The method as claimed in claim 5, characterized in that~~ at least one local minimum value ~~(LM)~~ is determined by low pass filtering from the envelope ~~(H)~~ which is established over two adjacent injection pulses, ~~for example over a pre-injection and a main injection, the~~ **a** position of said local minimum value ~~(LM)~~ being used as the start position for the measuring window ~~(M)~~.

7. **(Currently Amended)** **A method according to claim 5, wherein** ~~The method as claimed in claim 5 or 6, characterized in that~~ if there are a number of local minimum values ~~(LM)~~ ~~the~~ **a** smallest minimum value ~~(LM)~~ is used as the start position for the measuring window ~~(M)~~.

8. **(Currently Amended)** **A method according to claim 1, wherein** ~~The method as claimed in one of the preceding claims, characterized in that~~, taking into account an ignition delay and/or an engine type, the measuring window ~~(M)~~ is positioned in ~~the~~ **an** interval ±~~[[+-]]~~4 ° crankshaft angle ~~(crk)~~ with regard to the start of the combustion noise.

9. **(Currently Amended)** A device for analyzing the combustion noise during ~~the~~ **an** injection of fuel into a cylinder ~~(11)~~ of an internal combustion engine ~~(10)~~ ~~as claimed in one of the preceding claims, having~~**comprising:** a knock sensor ~~(14)~~ for recording the combustion noise ~~and~~ having an angle sensor ~~(17)~~ for recording the rotation angle of ~~the~~ **a** crankshaft ~~(18)~~ of the internal combustion engine ~~(10)~~, **and**

~~characterized in that~~ a control device ~~(15) is provided, that the control device (15) has~~ **comprising** a software program with an algorithm, ~~and that the algorithm is embodied~~ **the software program when executed** ~~to~~ specify**ing** a start and/or end position of ~~the~~ **a** measuring window ~~(M)~~ for an individual combustion noise that is to be recorded, said start and/or end position being variable as a function of operating conditions.

10. **(Currently Amended)** ~~The~~ A device ~~as claimed in~~ according to claim 9, ~~characterized in that~~ wherein the control device ~~(15)~~ is embodied to quantify an injected amount of fuel from the amplitude or the intensity of the combustion noise.

11. **(Currently Amended)** A device according to claim 9, wherein ~~The device as claimed in claim 9 or 10, characterized in that~~ the control device ~~(15)~~ records the combustion noise on a directly injecting diesel or petrol engine.

12. **(NEW)** A method according to claim 5, wherein at least one local minimum value is determined by low pass filtering from the envelope which is established over a pre-injection and a main injection, a position of said local minimum value being used as the start position for the measuring window.

13. **(NEW)** A method for analyzing a combustion noise during the injection of fuel into a cylinder of an internal combustion engine, comprising:

determining a start and/or end position of a measuring window that is variable as a function of operating parameters for the measuring window, and

detecting the combustion noise within an injection cycle in the measuring window which corresponds to a rotation angle of a crankshaft of the internal combustion engine.

14. **(NEW)** A method according to claim 13, wherein the end position of the measuring window is placed immediately before a start of combustion of a following injection pulse.

15. **(NEW)** A method according to claim 13, wherein the start position of the measuring window is predefined by a fixed length in time or a fixed rotation angle which is counted back from the end position of the measuring window.

16. **(NEW)** A method according to claim 13, wherein the measuring window is started at a start of injection or immediately before a start of combustion of an injection pulse that is to be considered.

17. **(NEW)** A method according to claim 13, wherein the start position and/or a length of the measuring window is determined by analysis of an envelope which is formed from the received combustion noise.

18. **(NEW)** A method according to claim 17, wherein at least one local minimum value is determined by low pass filtering from the envelope which is established over two adjacent injection pulses, a position of said local minimum value being used as the start position for the measuring window.

19. **(NEW)** A method according to claim 17, wherein if there are a number of local minimum values a smallest minimum value is used as the start position for the measuring window.

20. **(NEW)** A method according to claim 13, wherein, taking into account an ignition delay and/or an engine type, the measuring window is positioned in an interval ±4 ° crankshaft angle with regard to the start of the combustion noise.